

IN THE ABSTRACT:

The Abstract as amended below with a replacement Abstract shows added text with underlining and deleted text with ~~strikethrough~~.

Please DELETE the Abstract in its entirety and substitute the attached new Abstract.

A fast Fourier transform (FFT) operating apparatus and a method thereof carries out an FFT operation in a programmable processor chip. A program controller generates an FFT start signal and controls a programmable processor, and a program memory stores an application of the programmable processor. An FFT address generator removes the looping instruction used for the FFT and a cycle for an address generator, and generates an offset address of a butterfly input data and an operation end signal. An address generator calculates an address of a data memory using the offset address generated in the FFT address generator and a data memory stores data. A data processor carries out an arithmetic and logic operation using the data stored in the data memory and a flag register generates an FFT operation signal~~operate the FFT corresponding to a kernel function unit of DMT (Discrete Multitone) and OFDM (Orthogonal Frequency Division Multiplexing) modems to transmit a data with high speed in a programmable processor capable of processing a high speed telecommunication algorithm in real time by adopting advantages of the on-demand semiconductor based system and the programmable processor and applying to various standards by securing the design flexibility of the system.~~